A. Cover Sheet

1. Specify: ___ agricultural project or **X** urban project; **X** individual application or ___ joint application

2. Proposal title - concise but descriptive: **ACWD Schools and Water Conservation Program - Large Landscape Irrigation.**

3. Principal applicant - organization or affiliation: **Alameda County Water District**

4. Contact - name, title: **Vana Phibbs, Water Conservation Associate**

5. Mailing address: **43885 South Grimmer Boulevard, Fremont, CA 94539**

6. Telephone: **(510) 659-1970, ext. 218**

7. Fax: **(510) 770-1793**

8. E-mail: **vana.phibbs@acwd.com**

9. Funds requested - dollar amount: **$125,000 ($284,300 total program cost)**

10. Applicant cost share funds pledged - dollar amount: **$131,700**

11. Duration - (month/year to month/year): **July 1, 2001 - June 30, 2004**

12. State Assembly and Senate districts and Congressional district(s) where the project is to be conducted: **SA-18,20 / SS-10 / CD-13**

13. Location and geographic boundaries of the project: **ACWD Service Area. Includes the Cities of Fremont, Newark and Union City, California**

14. Name and signature of official representing applicant. By signing below, the applicant declares the following:

X the truthfulness of all representations in the proposal;

X the individual signing the form is authorized to submit the application on behalf of the applicant;

X the applicant will comply with contract terms and conditions identified in Section 11 of this PSP.

Vana N. Phibbs — February 14, 2001

(printed name of applicant) (date)

Vana N. Phibbs

(signature of applicant)

SECTION B

SCOPE OF WORK

Relevance and Importance
This section presents a summary of the project, a statement of water issues and the scope and objectives of the project.

B1 Abstract (Executive Summary)

The purpose of this project is to provide needed financial support for large landscape water use efficiency programs directed at ACWD service area schools. Landscape irrigation comprises over 50% of all water used in the ACWD service area and represents the vast majority of water consumed at schools. Improved landscape irrigation efficiency at ACWD service area schools will provide significant water savings within the District, as well as needed cost savings for local schools. It is ACWD's objective to create water conservation within a customer population that would otherwise not financially be capable of funding the cost.

If approved, financial assistance will be directed toward large landscape surveys, irrigation retrofits and submeter installation for mixed use meters. Schools and school districts impacted by this program are Fremont Unified School District, Newark Unified School District, New Haven (Union City) Unified School District, California School for the Deaf and Blind and Ohlone Community College.

B2 Water Issues, Need and Consistency with other Plans

Efficient use of the limited supplies of water available in California is critical. Landscape irrigation, as demonstrate through substantial research, is an essential element of effective water conservation.

ACWD draws 55% of its water from the State Water Project, therefore all efforts to curtail unnecessary, and unwise, irrigation results in savings to its draw. In addition, reduction in irrigation results in lower levels of undesired chemicals (salts, fertilizers, pesticides and herbicides) which impact the water quality of our groundwater supplies. Landscape related conservation is a cornerstone in ACWD's Integrated Resource Plan, Urban Water Management Plan and the California Urban Water Conservation Council's Best Management Practices (BMP 5 & 9).

The proposed program is a new component of ACWD's current Schools and Water Conservation Program. This program, launched in June 2000, is an ongoing effort to create opportunities for networking with, and making resources available to, local school and school district

maintenance/landscape management teams. This water conservation program provides a forum where these individuals work together, with ACWD, to enhance everyone's conservation efforts.

Schools and Water Conservation Program Meetings take place at least three times a year. Members from each management team work together to identify and implement efficient water use programs. Agendas include review of current programs and comparison of individual school actions as well as brainstorming new ideas. A new educational component has been implemented to network these managers with other departments within ACWD.

In addition to meetings, ACWD also provides consumption reports each billing cycle. These reports document current and historical consumption over a 12-month period.

Each of the schools has shown marked interest in landscape water consumption. The requested funding would allow the program to take a significant turn toward a more concrete approach to water use efficiency at the schools. Although ACWD is jointly collecting data necessary to create water budgets, it has become evident that the vast majority of accounts are on mixed use meters. This leaves no method of determining landscape irrigation except through historical periods without student occupation (July versus September). Submetering would allow for a meaningful water budget to be calculated after the performance of a landscape survey. Finally, when demonstrated as needed, this new program would allow for retrofitting outdated, inferior irrigation systems with new, more efficient technology. This final piece would provide for a critical shift in how irrigation is currently being implemented.

B3 Project Nature, Scope and Objectives

This project consists of providing necessary financial support to service area schools to implement landscape conservation measures in the form of submeter installation on mixed use meters, retrofit of outdated irrigation systems, conducting of landscape surveys and the development of water budgets and regular irrigation consumption reports.

Irrigation efficiency will be accomplished in the following tasks:

A. Submeter installation to track irrigation consumption on mixed use meters;
B. Conducting irrigation system audits and landscape surveys;
C. Retrofitting irrigation systems;
D. Developing landscape budgets and a budget reporting system to evaluate irrigation practices;

E. Monitoring and tracking results of the program to ensure the most efficient use of water for landscape irrigation; and
F. Providing continuing support for program for as long as the program serves the purposes of water use efficiency.

It is the objective of ACWD to offer this program to each school within our service area that can show need and benefit from said programs. Information on service area schools is available in Appendix B, Attachment 1.

We anticipate that the program will achieve water savings of between 10-20%. This percentage of savings figure is based on a similar program conducted with a city parks department in the service area.

Technical/Scientific Merit, Feasibility, Monitoring and Assessment

B4 Methods, procedures and facilities

ACWD has had an ongoing relationship with school maintenance and landscape managers through the Schools and Water Conservation Program since spring 2000. All interested parties participated in the development of this proposed new phase of the program. There is complete "buy-in" on all aspects of the program by these individuals.

Once the program has been implemented ACWD will use tracking systems already developed to monitor actual reductions in landscape irrigation water consumption. These systems currently monitor individual sites, accounts and meters. Current and historical consumption reports are distributed for each account each billing cycle.

B5 Schedule

This phase of the program will start in July 2001 and will be implemented over a three-year period, consistent with the availability of CALFED funding.

TASK	QUARTER (based on calendar year)											
	2001		2002				2003				2004	
	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
Sub-Meter Installation												
Landscape Surveys												
Irrigation System Audits												
Retrofit of Targeted Irrigation Systems												
Monitor & Track Irrigation Use *												
Expenditures in Thousands ($284,300 budget)	5	39	39	39	39	39	39	39	1.5	1.5	1.5	1.5

***Note:** This component of the program is on going and includes bringing these accounts into ACWD's Dedicated Landscape Partnership Program.

The bulk of expenditures for ACWD, service area schools and CALFED will take place between the 4th quarter of 2001 and the end of the 2nd quarter of 2003. ACWD will have ongoing expenses related to the monitoring and tracking phase of the program.

B6 Monitoring and Assessment

ACWD will read meters on a bi-monthly basis. Excel and Access databases, networked into ACWD's primary database, will continually monitor program performance. After the appropriate program has been ongoing, review of the accounts will become part of the program. A one-year review will dictate further action as to additional assistance and education.

SECTION C

OUTREACH, COMMUNITY INVOLVEMENT AND INFORMATION TRANSFER

C1 Outreach Efforts

This program is designed to reach out to the school within the ACWD service area. These schools include Fremont Unified School District, Newark Unified School District, New Haven (Union City) Unified School District, California School for the Deaf and Blind and Ohlone Community College.

The current financial constraints facing state funding of education in California are well documented. It has become a challenge to appropriately house and effectively educate students in many areas in the state. By providing funding for grounds maintenance, the monies in the school's budgets can be directly funneled into educational needs. Since schools fall into a not-for-profit status with the state and provide a needed benefit to local communities, all segments of the area population are effected, including the disadvantaged.

C2 Training, Employment and Capacity Potential

Training of school district personnel is built into the current Schools Conservation Program. In this training maintenance crews will be given instruction in the latest landscape and irrigation information.

Employment and capacity potential are managed through the high standards of the Board of Education and local school district personnel policies.

C3 Information Dissemination

Individual and specific reports are sent to participants every billing cycle or every two months. ACWD tracks read dates for meters and current consumption data. Appendix C, Attachment 1 includes a sample of a current school district consumption report provided by ACWD's conservation staff. New information that will be provided through landscape surveys and the implementation of water budgets will be reflected in a new report design.

C4 Letters of Notification

See Appendix C, Attachment 2

SECTION D

QUALIFICATIONS OF THE APPLICANTS, COOPERATORS AND ESTABLISHMENT OF PARTNERSHIPS

D1 Project Manager

The Project Manager is Vana Phibbs, Water Conservation Associate for ACWD. Other team members are Eric Cartwright, Sr. Water Resources Planner and Amy Kirn-Leist, Planning Assistant. A staff overview is attached in Appendix D, Attachment 1.

D2 External Cooperators

Fremont Unified School District, Newark Unified School District, New Haven (Union City) Unified School District, California School for the Deaf and Blind and Ohlone Community College.

D3 Partnerships

This program provides a unique opportunity for ACWD to partner with area schools to work toward greater water use efficiency in the area of large landscape irrigation conservation.

SECTION E

COSTS AND BENEFITS

E1 Budget Summary and Breakdown

See Appendix E, Table 1

E2 Budget Justification

Explanation of E1, Appendix E, Table 1.

a. Salaries and wages: All salary information provided is based on average salary and wages. ACWD staff time is estimated at eight hours per week over a three-year period with an average cost of $25 per hour. School district employee's time averages at $20 per hour with an estimate of five hours per week over a three-year period.
b. Fringe benefits: Factored at a rate of 1.3 on salary and wages.

c. Supplies: Figure based on depreciation of office equipment and cost of supplies to administer the program by ACWD.
d. Equipment: Based on estimates of current costs for submeters, irrigation components, controllers and additional materials required to meet the goals of the program.
e. Services: Based on fees to retain consultants, contractors and landscape specialists for the audit and irrigation retrofit portion of the program.
f. Travel: Based on cost of travel to present program report to CALFED each year.
g. Other Direct Cost: Related to involvement of personnel from other departments within ACWD to administer the program effectively.

E3 Benefit Summary and Breakdown

a. Quantifiable Project Outcomes and Benefits.

Benefits to Schools
ACWD estimates that schools will realize water savings of 10-20% of current use. This figure is based on a previous program ACWD conducted with the City of Fremont Parks Department. This reduction greatly improves dry year reliability, decreases the need for Delta water sources and decreases facilities needs for the schools.

In addition, the reduced water use by the schools means a reduction in the amount of money paid for water each year. If average savings of 15% are realized, schools in the area would see financial savings as listed in Appendix E, Table 3.

New irrigation systems will mean a reduction in maintenance hours spent by school staff. Irrigation leaks and system failures will be corrected, saving schools an average of $20 per man-hour.

Benefit to ACWD
Water use efficiency in landscape irrigation can help ACWD staff avoid development of new water supplies. Avoided water supplies development represents avoided costs of $450/AF. If savings of 15% are realized in school landscape irrigation, ACWD will see savings such as those outlined in Appendix E, Table 2.

Benefit to CALFED
As represented in Appendix E, Table 2, the potential exists to save 125AF each year. The potential savings equate to a decrease in

ACWD's State Water Project allotment and a healthier Bay Delta infrastructure. This positively reinforces CALFED's goals in the Record of Decision.

b. Non Quantifiable Project Outcome and Benefits

All Californians are concerned about the state of education and effectively funding education. Any partnership that exists to support the long-range success of education bodes well for all parties. This program not only demonstrates simple cost savings to schools in the service area, but more importantly shows meaningful agreements between government and private agencies serving the people of California and working toward the greater good.

At a local level, education is enhanced with additional funds, water is treated by the educational community as the valuable resource it is and ACWD demonstrates effective management of resources.

At a state level, standards of achievement are met through BMPs and RODs, resources are effectively reallocated as needed and quality of life is strengthened in state ecosystems.

E4 Assessment of Costs and Benefits

a. Major Analysis Assumptions
Savings costs figured at a six percent discount rate. Avoided costs of water supply is based on cost of developing new water supplies from the Delta, securing new water supplies and treatment of those supplies.

b. Express Costs & Benefits
See Appendix E, Table 2

c. Conversion of Costs and Benefits
See Appendix E, Table 2

d. Present Value Tables
See Appendix E, Tables 2 & 3

APPENDIX B

Attachment 1 – Participating Schools and Water Consumption Information

APPENDIX C

Attachment 1 – Sample School Consumption Report
Attachment 2 – Letters of Notification and Support

APPENDIX D

Attachment 1 – Staff Overview

Staff Overview

Vana Phibbs, Water Conservation Associate

Vana Phibbs has been Water Conservation Associate with ACWD since September of 1998. In her position, Vana oversees the implementation of CUWCC's Best Management Practices and manages a variety of conservation outreach programs for ACWD. She was recently certified as a Water Conservation Practitioner.

Vana's background centers on public affairs, marketing and writing. In addition she has extensive experience in volunteer leader development, organization management and long range strategic planning. Her previous positions include Public Affairs Manager for the U.S. Chamber of Commerce, Western Division and Chapter Development Manager for the International Association of Business Communicators. Vana is a graduate of San Jose State with a BA in Comparative Religious Studies.

Amy Kirn-Leist, Planning Assistant

Amy Kirn-Leist has worked for ACWD for approximately 1.5 years, both in the Groundwater Resources and Water Resources Planning Departments. Amy has held the position of Planning Assistant since July 2000, and has recently received certification as Water Conservation Practitioner. She oversees several of ACWD's conservation programs, including the Dedicated Landscape Partnership (CUWCC BMP 5).

Amy's background is in geology and hydrology and has experience in ground- and surface-water clean-up and protection. Amy graduated with Honors from the University of California at Santa Barbara with a degree in Hydrologic Sciences.

Eric Cartwright, Sr. Water Resource Planner

Eric Cartwright has worked for ACWD since 1996. As Sr. Water Resource Planner for ACWD, Eric manages ACWD's Water Resource Planning department, which includes all conservation programming.

Eric holds BS in Hydrology from the University of Arizona and a Masters in Civil Engineering from the University of California at Davis.

Appendix B, Attachment 1

Alameda County Water District Schools and Water Conservation Program			
Service Area Schools	**Units Consumed in a 12-month period**	**AF of Consumption in a 12-month period**	**Number of Mixed Use Institutional Accounts**
California School for the Deaf and Blind	78,065	179	6
Fremont Unified	233,871	537	69
Newark Unified	115,245	265	23
New Haven Unified	76,079	175	30
Ohlone College	39,114	90	3
Totals	542,374	1,245	131

SAMPLE SCHOOL CONSUMPTION REPORT

Customer Name	Meter No.	Account Number					SERVICE ADDRESS			Consumption in Units							Total Consumption Per Account in Units (Past 12 Mo.)
		DIST	BOOK	ACCT	SEQ	REG				Dec-Jan 99-00	Feb-Mar 2000	Apr-May 2000	Jun-Jul 2000	Aug-Sept 2000	Oct-Nov 2000	Dec-Jan 00-01	
School for the Deaf	0	03	99	00635	2	2	39350 Gallaudet Dr	Fmt	94538	1345	1780	1314	791	271	4	3	**5,508**
School for the Deaf	0	03	99	00635	2	3	39350 Gallaudet Dr	Fmt	94538	151	187	158	95	37	3	2	**633**
School for the Deaf	0	03	99	00636	4	2	501 Walnut Ave.	Fmt	94538	4671	5985	5160	4090	2540	1099	792	**24,337**
School for the Deaf	0	03	99	00636	4	3	501 Walnut Ave.	Fmt	94538	501	532	534	510	529	555	547	**3,708**
School for the Deaf	5431595	03	99	00635	2	1	39350 Gallaudet Dr	Fmt	94538	107	116	186	50	9	0	0	**468**
School for the Deaf	5459919	03	99	00636	4	1	501 Walnut Ave.	Fmt	94538	5819	7693	6169	3471	1152	27	14	**24,345**
																Grand Total in Units:	**58,999**

Customer Name	Meter No.	Account Number					SERVICE ADDRESS			Consumption in 1000 Gallons							Total Consumption Per Account in 1000 Gallons (Past 12 Mo.)
		DIST	BOOK	ACCT	SEQ	REG				Dec-Jan 99-00	Feb-Mar 2000	Apr-May 2000	Jun-Jul 2000	Aug-Sept 2000	Oct-Nov 2000	Dec-Jan 00-01	
School for the Deaf	0	03	99	00635	2	2	39350 Gallaudet Dr	Fmt	94538	1,006	1331	983	592	203	3	2	**4,120**
School for the Deaf	0	03	99	00635	2	3	39350 Gallaudet Dr	Fmt	94538	113	140	118	71	28	2	1	**473**
School for the Deaf	0	03	99	00636	4	2	500 Walnut Ave.	Fmt	94538	3,494	4477	3860	3059	1900	822	592	**18,204**
School for the Deaf	0	03	99	00636	4	3	501 Walnut Ave.	Fmt	94538	375	398	399	381	396	415	409	**2,774**
School for the Deaf	5431595	03	99	00635	2	1	39350 Gallaudet Dr	Fmt	94538	80	87	139	37	7	0	0	**350**
School for the Deaf	5459919	03	99	00636	4	1	501 Walnut Ave.	Fmt	94538	4,353	5754	4614	2596	862	20	10	**18,210**
																Grand Total in 1000 Gallons:	**44,131**

APPENDIX E

Table 1 – Program Budget Summary
Table 2 – Total Program Cost Benefit Analysis
Table 3 – School Cost Benefit Analysis

ACWD's CALFED Water Use Efficiency Grant Proposal
Estimated Budget Worksheet Summary and Breakdown

	Cost Sharing		
Budget Items	**ACWD**	**Schools**	**CALFED Grant**
Salaries and Wages	$24,000	$12,000	$0
Fringe Benefits	$31,200	$15,600	$0
Supplies	$750	$0	$0
Equipment (submeters, irrigation components, additional hardware to manage projects)	$50,000	$0	$100,000
Services or Consultants/Contractors	$25,000	$0	$25,000
Travel	$250	$0	$0
Other Direct Costs	$500	$0	$0
Total $284,300	$131,700	$27,600	$125,000
	% of Cost Sharing		
	46%	10%	44%

APPENDIX E, TABLE 1

ACWD School Conservation Program - Landscape Irrigation

TOTAL PROGRAM PERSPECTIVE: PRESENT VALUE OF COSTS AND BENEFITS

Value of Conserved Water 2001-2030 ($/AF)	450
Projected savings (%)	10%
Discount Rate (real)	6.0%

Year	Program Year	Water Savings (AF/Yr) Net Savings	Benefits ($) Undiscounted Water Benefits	Benefits ($) Total Discounted	Costs ($) Undiscounted Costs	Costs ($) Total Discounted	NPV ($)
2001	1	41	$18,488	$17,442	$95,000	$95,000	-$77,558
2002	2	82	$36,977	$32,909	$95,000	$89,623	-$56,714
2003	3	125	$56,025	$47,040	$95,000	$84,550	-$37,510
2004	4	125	$56,025	$44,377	$0	$0	$44,377
2005	5	125	$56,025	$41,865	$0	$0	$41,865
2006	6	125	$56,025	$39,495	$0	$0	$39,495
2007	7	125	$56,025	$37,260	$0	$0	$37,260
2008	8	125	$56,025	$35,151	$0	$0	$35,151
2009	9	125	$56,025	$33,161	$0	$0	$33,161
2010	10	125	$56,025	$31,284	$0	$0	$31,284
2011	11	125	$56,025	$29,513	$0	$0	$29,513
2012	12	125	$56,025	$27,843	$0	$0	$27,843
2013	13	125	$56,025	$26,267	$0	$0	$26,267
2014	14	125	$56,025	$24,780	$0	$0	$24,780
2015	15	125	$56,025	$23,377	$0	$0	$23,377
2016	16	125	$56,025	$22,054	$0	$0	$22,054
2017	17	125	$56,025	$20,806	$0	$0	$20,806
2018	18	125	$56,025	$19,628	$0	$0	$19,628
2019	19	125	$56,025	$18,517	$0	$0	$18,517
2020	20	125	$56,025	$17,469	$0	$0	$17,469
Total (20 years)		**2,240**	**1,007,890**	**572,768**	**285,000**	**269,172**	**$303,596**

BENEFIT COST RATIO	**2.1**

SCHOOL PERSPECTIVE: PRESENT VALUE OF COSTS

Value of Conserved Water 2001-2030 ($/AF)	676
Projected savings (%)	10%
Discount Rate (real)	6.0%

Year	Program Year	Water Sav Net Savings	Benefits ($) Undiscounted Water Benefits	Benefits ($) Total Discounted	Cost Undiscoun Costs
2001	1	41	$27,773	$26,201	$9,200
2002	2	82	$55,547	$49,437	$9,200
2003	3	125	$84,162	$70,664	$9,200
2004	4	125	$84,162	$66,664	$0
2005	5	125	$84,162	$62,891	$0
2006	6	125	$84,162	$59,331	$0
2007	7	125	$84,162	$55,973	$0
2008	8	125	$84,162	$52,804	$0
2009	9	125	$84,162	$49,815	$0
2010	10	125	$84,162	$46,996	$0
2011	11	125	$84,162	$44,335	$0
2012	12	125	$84,162	$41,826	$0
2013	13	125	$84,162	$39,458	$0
2014	14	125	$84,162	$37,225	$0
2015	15	125	$84,162	$35,118	$0
2016	16	125	$84,162	$33,130	$0
2017	17	125	$84,162	$31,255	$0
2018	18	125	$84,162	$29,486	$0
2019	19	125	$84,162	$27,817	$0
2020	20	125	$84,162	$26,242	$0
Total (20 years)		**2,240**	**1,514,074**	**860,425**	**27,600**

BENEFIT COST RATIO (10%)*

*BENEFIT COST RATIO (at 5% savings - 16.5, at 15% savings - 49.5)

AND BENEFITS

ts ($)	NPV
Total Discounted	($)
$9,200	$17,001
$8,679	$40,757
$8,188	$62,476
$0	$66,664
$0	$62,891
$0	$59,331
$0	$55,973
$0	$52,804
$0	$49,815
$0	$46,996
$0	$44,335
$0	$41,826
$0	$39,458
$0	$37,225
$0	$35,118
$0	$33,130
$0	$31,255
$0	$29,486
$0	$27,817
$0	$26,242
26,067	**$834,358**

33.0